



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,359	04/02/2004	Su Lin Oon	70040110-1	2554

7590 09/11/2006
AGILENT TECHNOLOGIES, INC.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

LOUIE, WAI SING

ART UNIT PAPER NUMBER

2814

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/817,359	Applicant(s) OON ET AL.	
	Examiner Wai-Sing Louie	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-10,14,16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10,14,16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 6, 9-10, 14, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soules et al. (US 6,252,254) in view of Ellens et al. (US 6,674,233).

With regard to claim 1, Soules et al. disclose a light-emitting device with phosphor (col. 2, line 52 et seq. and fig. 1) comprising:

- A blue light-emitting device 12 that emits blue light with peak wavelength within a range from 460 to 480 nm (col. 3, lines 57-60);
- A mold material 16 placed over the light-emitting device 12, the molding material including:
- A first type phosphor, where the first type of phosphor, when excited, emits red light (col. 5, line 54);
- A second type phosphor, where the second type of phosphor, when excited, emits yellow light (col. 5, line 54);
- Soules et al. do not disclose the mold material 16 is epoxy. However, Ellens et al. disclose the encapsulation material 5 is epoxy (Ellens col. 4, lines 18-21). Ellens et al. teach the epoxy encapsulation material is excellent thermal stability (Ellens col. 2, lines 7-17). Therefore, it would have been obvious to one of ordinary skill

Art Unit: 2814

in the art to modify Soules' device with the teaching of Ellens et al. to use epoxy as encapsulation material in order to have excellent thermal stability.

With regard to claims 3 and 16, Soules et al. disclose the light-emitting device is a blue light-emitting diode (col. 3, lines 57-60) and the yellow phosphor is YAG:Ce (col. 5, line 59).

With regard to claim 4, in addition to the limitations disclosed in claim 1 above, Soules et al. disclose an optical dome 16 covering the epoxy (fig. 1).

With regard to claims 6 and 18, Soules et al. disclose the red phosphor is SrS:Eu² (col. 5, line 64) and the yellow phosphor is YAG:Ce (col. 5, line 59).

With regard to claims 9 and 19, Soules et al. modified by Ellens et al. disclose a printed circuit board 22 (Ellens fig. 2) and a lead frame 2 and 3 (Ellens fig. 1).

With regard to claims 10 and 20, Soules et al. modified by Ellens et al. disclose a substrate 21 (Ellens fig. 2).

With regard to claim 14, in addition to the limitations disclosed in claim 1 above, Soules et al. modified by Ellens et al. also disclose:

- A holding means 8 for holding a first and second type of phosphors adjacent to the LED 1 (Ellens fig. 1).

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soules et al. (US 6,252,254) modified by of Ellens et al. (US 6,674,233) as applied to claim 1 above, and further in view of Marshall et al. (US 6,513,949).

With regard to claims 7-8, Soules et al. modified by Ellens et al. do not disclose a second LED. However, Marshall et al. disclose a second LED with epoxy phosphors mixture (Marshall

Art Unit: 2814

fig. 2). Marshall et al. teach the second LED exhibits improved performance over conventional LED lighting system (Marshall col. 1, lines 6-12). Therefore, it would have been obvious at the time the invention was made to modify Soules' device with the teaching of Ellens et al. and Marshall et al. to include second LED with epoxy phosphors mixture in order to have an improved performance hybrid lighting system. Soules et al. modified by Ellens et al. and Marshall et al. disclose a third LED with epoxy phosphors mixture (Marshall fig. 3).

Response to Arguments

Applicant's arguments with respect to claims 1, 3-4, 6-10, 14, 16, and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

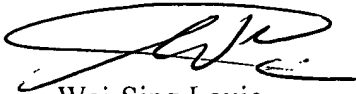
Art Unit: 2814

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Wai-Sing Louie
Primary Examiner

Wsl
August 31, 2006.